

What is claimed is:

1. A stent for use at an implant site in a vessel comprising a radially expandable tubular body and an active agent for treatment of the implant site, the tubular body having an interior surface and an exterior surface, the tubular body including a plurality of sinusoidal shaped annular elements and a plurality of lambda shaped connection elements, each annular element being connected to at least one other annular element by a plurality of connection elements, each annular element and each connection element having a rectilinear portion and a curved portion, the exterior surface of the tubular body having a plurality of recesses positioned only in the rectilinear portions, the active agent being contained within the recesses, the recesses conferring on the rectilinear portion where they are positioned a hollowed sectional profile of which the recesses occupy from 10% to 60% of the area of the sectional profile, the geometry of the recesses being such that bending moments of inertia of the portions containing the recesses are not substantially reduced.

2. The stent of claim 1 wherein the hollowed sectional profile of the recesses ranges from 20% to 50% of the area of the sectional profile.

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3. The stent of claim 1 wherein the hollowed sectional profile of the recesses is not less than 30% of the area of the sectional profile.

4. The stent of claim 1 wherein the hollowed sectional profile of the recesses has a C-shaped profile.

5. The stent of claim 1 further wherein the stent has a longitudinal axis and wherein the hollowed sectional profile of the recesses has a rectangular profile, a longer dimension of the rectangular profile extending in a direction tangential to the longitudinal axis of the stent.

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6. The stent of claim 1 wherein the stent has a longitudinal axis and wherein the hollowed sectional profile of the recesses has a rectangular profile, a longer dimension of the rectangular profile extending in a direction radial to the longitudinal axis of stent.

7. The stent of claim 1 wherein the hollowed sectional profile of the recesses has a substantially U-shaped profile.

8. The stent of claim 1 wherein the hollowed sectional profile of the recesses has a substantially V-shaped profile.

9. The stent of claim 1 wherein the hollowed sectional profile of the recesses has undercut areas.

10. The stent of claim 1 wherein the plurality of recesses is substantially discontinuous on the exterior surface of the rectilinear portions of the stent.

11. The stent of claim 1 wherein each recess of the plurality of recesses has a substantially well-shaped configuration.

12. The stent of claim 1 wherein the active agent comprises at least two different active agents.

13. The stent of claim 1 further wherein the stent has a longitudinal axis and wherein the active agent contained within the recesses is present in a non-uniform distribution along the longitudinal axis of the stent.

14. A stent for use at an implant site in a vessel comprising a radially expandable tubular body and an active agent for treatment of the implant site, the

tubular body having an interior surface and an exterior surface, the tubular body including a plurality of annular elements and a plurality of connection elements, each annular element being connected to at least one other annular element by at least two connection elements, the tubular body having a plurality of recesses, the
5 active agent being contained within the recesses, the recesses conferring on the elements where they are positioned a hollowed sectional profile of which the recesses occupy a portion of the area of the sectional profile, the geometry of the recesses being such that bending moments of inertia of the elements containing the recesses are not substantially reduced.

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15. The stent of claim 14 wherein the plurality of recesses are on the exterior surface of the stent.

16. The stent of claim 14 wherein the hollowed sectional profile of the
15 recesses ranges from 10% to 60% of the area of the sectional profile.

17. The stent of claim 14 wherein the hollowed sectional profile of the recesses ranges from 20% to 50% of the area of the sectional profile.

18. The stent of claim 14 wherein the hollowed sectional profile of the
20 recesses is not less than 30% of the area of the sectional profile.

19. The stent of claim 14 wherein the hollowed sectional profile of the recesses has a C-shaped profile.

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20. The stent of claim 14 wherein the stent has a longitudinal axis and wherein the hollowed sectional profile of the recesses has a rectangular profile, a longer dimension of the rectangular profile extending in a direction tangential to the longitudinal axis of the stent.

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21. The stent of claim 14 wherein the stent has a longitudinal axis and wherein the hollowed sectional profile of the recesses has a rectangular profile, a longer dimension of the rectangular profile extending in a direction radial to the longitudinal axis of stent.

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22. The stent of claim 14 wherein the hollowed sectional profile of the recesses has a substantially U-shaped profile.

23. The stent of claim 14 wherein the hollowed sectional profile of the
10 recesses has a substantially V-shaped profile.

24. The stent of claim 14 wherein the hollowed sectional profile of the recesses has undercut areas.

15 25. The stent of claim 14 wherein the plurality of recesses is substantially discontinuous.

26. The stent of claim 14 wherein each recess of the plurality of recesses has a substantially well-shaped configuration.

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27. The stent of claim 14 wherein the active agent comprises at least two different active agents.

28. The stent of claim 17 wherein the stent has a longitudinal axis and
25 wherein the active agent contained within the recesses is present in a non-uniform distribution along the longitudinal axis of the stent.

29. A stent for use at an implant site in a vessel comprising a radially expandable tubular body and an active agent for treatment of the implant site, the
30 tubular body having an interior surface and an exterior surface, the tubular body

including a plurality of annular elements and a plurality of connection elements, the annular elements and connection elements having portions subject to stress during expansion or use of the stent and portions not subject to stress during expansion or use of the stent, each annular element being connected to at least one other annular element by a plurality of connection elements, the tubular body having a plurality of recesses positioned only in the portions that are not subject to stress during expansion or use of the stent, the active agent being contained within the recesses, the recesses conferring on the portions where they are positioned a hollowed sectional profile of which the recesses occupy a substantial portion of the area of the sectional profile, the geometry of the recesses being such that the characteristic of bending strength of the portions containing the recesses is not substantially reduced.

30. The stent of claim 29 wherein the hollowed sectional profile of the recesses is not less than 30% of the area of the sectional profile.

31. A stent for use at an implant site in a vessel comprising a radially expandable tubular body and an active agent for treatment of the implant site, the tubular body having an interior surface and an exterior surface, the tubular body including a plurality of annular elements and a plurality of connection elements, the annular elements and connection elements having portions subject to deformation during expansion or use of the stent and portions not subject to deformation during expansion or use of the stent, each annular element being connected to at least one other annular element by a plurality of connection elements, the tubular body having a plurality of recesses positioned only in the portions that are not subject to deformation during expansion or use of the stent, the active agent being contained within the recesses, the recesses conferring on the portions where they are positioned a hollowed sectional profile of which the recesses occupy a substantial portion of the area of the sectional profile, the

geometry of the recesses being such that the characteristic of bending strength of the portions containing the recesses is not substantially reduced.